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Katherine Vera Aumer-Ryan

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The Dissertation Committee for Katherine Vera Aumer-Ryan certifies that this is the
approved version of the following dissertation:

Between Two Worlds:
Consequences of Dual-Group Membership among Children

Committee:

Rebecca S. Bigler, Supervisor

William B. Swann Jr.

Samuel D. Gosling

James W. Pennebaker

John Hartigan

Elaine Hatfield

Between Two Worlds:
Consequences of Dual-Group Membership among Children

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Katherine Vera Aumer-Ryan, B.A.

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Between Two Worlds:
Consequences of Dual-Group Membership among Children

Katherine Vera Aumer-Ryan, Ph.D.

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Supervisor: Rebecca S. Bigler

Increasing numbers of individuals are simultaneously members of two or more social categories. To investigate the effects of single- versus dual-identity status on children's group views and intergroup attitudes, elementary-school-age children ($N = 91$) attending a summer school program were assigned to novel color groups that included single-identity ("blue" and "red") and dual-identity ("bicolored," or half red and half blue) members. The degree to which dual-identity status was verified by the authority members was also manipulated: teachers in some classrooms were instructed to label and make use of three social groups ("blues," "reds," "bicolors") to organize their classrooms, whereas teachers in other classrooms were instructed to label and make use of only the two "mono-colored" groups ("blues" and "reds"). After several weeks in their classrooms, children's (a) views of group membership (i.e., importance, satisfaction, perceived similarity, group preference), (b) intergroup attitudes (i.e., traits ratings, group evaluations, peer preferences), and (c) categorization complexity (i.e., tendency to sort individuals along multiple dimensions simultaneously) were assessed. Results varied

across measures but, in general, indicated that dual-identity status affected children's views of their ingroup. Specifically, dual-identity children in classrooms in which their status was not verified were more likely to (a) perceive themselves as similar to other ingroup members (i.e., bicolored children), (b) want to keep their shirt color, and (c) assume that a new student would want their shirt color more than their single-identity peers. They also showed higher levels of ingroup bias in their competency ratings of groups than their single-identity peers, and demonstrated greater cognitive flexibility when thinking about social categories than their single-identity peers. Overall, these results suggest that dual-identity children experience identity issues differently than their single-identity peers and that additional theories are needed to address the complexities of social membership and bias among children with dual memberships.

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Introduction and Literature Review

Introduction

An enormous body of psychological research indicates that social group membership can have profound effects on individuals' self-perceptions, attitudes, and behavior (Phinney, Cantu, & Kurtz, 1997; Steele, 1997). The vast majority of this literature, however, concerns individuals who are members of only one of some possible set of social categories (e.g., individuals who are male versus female, African American versus European American, Catholic versus Jewish). Significant and growing numbers of individuals are, however, simultaneously members of two or more social categories. Studies indicate, for example, that more than 7 million Americans identify themselves as multi-racial, and 1 in 5 children are expected to identify as multi-racial by 2050 (Lee & Bean, 2004). Although the topic has received relatively little empirical attention, there is some evidence that simultaneous membership within two social groups, or dual-identity status, is associated with unique psychological outcomes. The primary purpose of this study was to use a novel group paradigm to examine the consequences of membership in single versus dual social groups for children's views of group membership and intergroup attitudes. In addition, the study sought to determine whether contextual, individual, or developmental differences moderate the effects of identity status on children's outcomes.

Perhaps the first treatment of the topic of multiple group identity within the social sciences was Park's (1937) introduction of the concept of the "marginal man." Park and other writers (e.g., Stonequist, 1937) viewed the marginal man as someone who experienced great psychological torment from his or her lack of inclusion into one

specific social group. During subsequent decades, psychological approaches continued to “problematize” the experience of dual category membership. That is, most models of identity development asserted that inclusion into a single, cohesive social group is necessary for mental health and social adjustment. Major social psychological theorists, including Lewin (1948) and Tajfel (1978), posited that dual group membership is deleterious because it required individuals to navigate many more intergroup and interpersonal conflicts than did single group membership. Consistent with this notion, multiracial individuals have been viewed as suffering social rejection (Johnson, 1992), poor mental health outcomes (Stonequist, 1937; Thornton & Wason, 1995), and extended identity crises (Herring, 1995; Kich, 1992; Lyles, Yancey, Grace, & Carter, 1985, Piskacek & Golub, 1973; Rockquemore & Brunsma, 2002a; Sommers, 1964; Wardle, 1987). Empirical findings have, however, challenged these assumptions, documenting that multiracial individuals fare as well or better than their mono-racial peers on many outcome measures (see Shih & Sanchez, 2005).

More current approaches to the study of dual-identity adopt a variant approach (Thornton & Wason, 1995). Such approaches view dual-identity status as associated with unique social experiences that, in turn, produce psychological outcomes that differ from those of single-identity status individuals (Gillem et al., 2001; Logan, 1981; Rockquemore & Brunsma, 2002a, 2002b). Although dual-group membership is likely to affect a wide variety of social process and developmental outcomes, the focus of the current study concerns children’s views of group membership (e.g., group importance, group happiness) and intergroup attitudes (e.g., trait stereotyping, peer preferences).

Theoretical Background

Grounded in Lewin's (1948) work, self-categorization theorists and their predecessors, social identity theorists (SCT; Tajfel, et al., 1971; Tajfel & Turner, 1986), have argued that individuals strive for consistency with members of relevant ingroups (Hogg, 1996). According to SCT, individuals typically internalize ingroups' values and adhere to ingroups' behavioral expectations (Turner, Hogg, Oaks, Reicher, & Wetherell, 1987). In addition, SCT posits that individuals routinely show biases that favor ingroup over outgroup members (Tajfel, et al., 1971; Tajfel & Turner, 1986). The motivation to conform to ingroup norms and show ingroup favoritism is thought to derive from the need for positive self-regard. Both processes are believed to promote group-based pride and elevate self-esteem.

Empirical evidence for SCT's claims come from "minimal groups" studies in which individuals are randomly assigned to groups based on random or meaningless criteria (e.g., the tendency to over- or under-estimate the number of dots projected on a screen; for reviews see Brewer & Brown, 1998; Messick & Mackie, 1989). Research using such paradigms indicates that when categorized into minimal groups, individuals (a) favor ingroup over outgroup members in distribution of rewards (Billig & Tafel, 1973; Tajfel, Billig, Bundy, & Flament, 1971); (b) evaluate ingroup members more favorably than outgroup members (Doise et al., 1972); (c) evaluate products created by the ingroup more positively than products created by the outgroup (Dustin & Davis, 1970); and (d) perceive the ingroup as more variable than the outgroup (Simon & Brown, 1987).

Developmental psychologists have also applied minimal group paradigms to the study of children's social identities and attitudes (e.g., Bigler, Jones, & Lobliner, 1997; Nesdale & Flessner, 2001; Yee & Brown, 1992). These studies indicate that children as young as four years of age develop ingroup biased attitudes concerning novel social groups when such groups are perceptually discriminable (e.g., group are marked by colored tee-shirts) and are marked as important by adults (e.g., authority figures label groups). However, extant intergroup studies have situated individuals within one -- and only one -- novel social group. Because intergroup paradigms seem especially well suited to testing the causal effects of single versus dual identity status on individuals' group views, I employed such a paradigm here by randomly assigning children to single versus dual novel identities. Specifically, elementary-school-age children attending a summer school program were randomly assigned to a novel single-group identity ("red" or "blue," denoted by a colored tee-shirt) or a novel dual-group identity ("bicolored," denoted by a half-red/half blue tee-shirt) and the consequent effects on their group views and intergroup attitudes were examined.

Single- Versus Dual-Group Identity

There are two major differences between dual- versus single-group identity individuals that are likely to be relevant to the development of group views and intergroup attitudes. The first difference is that dual-identity status individuals have two possible social groups (within some broad social category, such as race or religion) with which to identify, whereas single-identity status individuals have one such group. It is not yet clear however, which course of action most dual-identity individuals select given

their greater options for identification. Root (1998, 1999) suggests that multiracial individuals use one of four strategies to negotiate their identities. Specifically, such individuals may (a) identify strongly as members of both groups to which they belong, (b) shift their allegiance between groups across context differing contexts, (c) refuse to identify with any one of the groups that comprise identity and instead emphasize a superordinate (“human”) identity, or (d) adopt a single identity, much like their mono-racial peers. Importantly, these differing identification strategies should have consequences for the intergroup biases posited by SCT and social identity theory.

Individuals who adopt one of the first two strategies (i.e., adopting simultaneous or alternating identifications) are likely to show to increased complexity of thought about groups. Roccas and Brewer (2002) have argued that individuals who adopt dual identities show higher levels of “social identity complexity.” Such individuals, they argue, show more complex thinking about groups in general than their single identity peers. In multiple studies, they found that individuals belonging to multiple social groups and high on social identity complexity were more open to change and lower on anxiety mood state than those with multiple group membership but with low social identity complexity. In addition, Brewer and Pierce (2005) found that those individuals with high social identity complexity were more tolerant and accepting of outgroup members than those low on social identity complexity. These lines of research do not speak to issues of causal direction (e.g., people who are more open to change may be more likely to form complex identities when given the opportunity), but they suggest that the formation of complex

(rather than simplistic) social identities may promote low levels of intergroup bias among children.

The second difference between single- and dual-identity status individuals that is relevant for group views and intergroup attitudes is that the latter are more likely to be atypical members of the social groups to which they belong than the former. As a result of their atypicality, children with dual identities may be rejected by their ingroup peers and, as consequence, may show levels of identification and happiness with their group membership. Consistent with this notion, studies have shown that multiracials are one of the most marginalized groups within the U.S. For example, Harris (2002) reported that multiracials were likely to experience discrimination from monoracial members of both majority and minority groups. Tang et al. (2004) also demonstrated that multiracial youth experience more discrimination in school environments than either monoracial Black or monoracial White students. It is difficult, however, to draw firm conclusions about the experience of multiracial and other individuals who are members of two or more groups when—as is typically the case—one of the groups to which they belong is stigmatized. The use of a novel group paradigm provided an opportunity to examine the consequences of dual-identity status when the two groups to which individuals belong are equal in status.

Although no previous research has employed the experimental manipulation of dual-identity status, one extant study of intergroup attitudes among children is relevant to this topic. Patterson and Bigler (2006) randomly assigned elementary-school-age students in summer school classrooms to one of two novel social groups (denoted by blue or green

tee-shirts). A minority of students in each color group was then randomly assigned to receive a tee-shirt that was a slightly lighter shade of green or blue than their fellow ingroup members. These atypical students were treated by authority figures as members of the larger “green” or “blue” ingroup, but their t-shirt color clearly marked them as atypical group members. Patterson and Bigler found that children’s levels of in-group bias were unaffected by their status as typical or atypicality group members. Among young children (5 to 7 year-olds), however, ratings of their own satisfaction with their membership were affected by the atypicality of their group membership. Atypical children reported less happiness with their group membership than typical children. They also, however, reported increased identification with their ingroup than their typical peers. Because dual identity status is a form of atypicality, I expected similar results here. Specifically, I expected younger students to be more affected by the identity status manipulation than older students. Among young children, I expected dual identity status individuals to report stronger identification with their ingroup than single identity peers, and simultaneously, less happiness with their shirt color than their mono-colored peers.

Contextual, Individual Differences and Developmental Factors

Although my primary goal was to examine the consequences of dual-identity status on children’s group views and intergroup attitudes, a secondary purpose of this research was to determine whether contextual, individual differences, or developmental factors might moderate the potential effects of identity status on children’s outcomes. The contextual factor of interest here was the extent to which authority figures legitimize dual-identity status via the recognition that such individuals belong to a distinct social

group. The social, legal, and psychological treatment of dual- and multiple-status individuals has varied historically and across cultures. Some cultures, including many Native American tribes, recognized multiracial identities in both official and informal capacities, whereas other cultures legitimize only mono-racial groups (Spencer, 1999). For example, people of mixed-race heritage have always been present in the U.S. but -- for most of U.S. history -- these individuals were unable to claim an identity as “multiracial.” Instead, all individuals were classified into one of the existing “monoracial” categories. The “one drop rule,” for example, defined all those individuals with ancestors of African descent as “Negros” (although labels such as “mulatto” or “octoroon” existed). The U.S. government allowed individuals to claim a “multiracial” identity for the first time in the 2004 Census and new labels for such bi- and multi-racial groups have emerged (e.g., Hawai’i’s “hapas,” who are half White and half Asian, and Tiger Wood’s “Cablinasian;” see Edmontson, 1995; Kamiya, 1997). To examine the consequence of subsuming dual-identity individuals within single-identity groups versus treating such individuals as members of separate autonomous minority group, I manipulated authority figure’s “verification” of dual-group status. Thus, teachers in some classrooms were instructed to label and make use of three social groups (“blues,” “reds,” “bicolors”) to organize their classrooms, whereas teachers in other classrooms were instructed to label and make use of only the two “mono-colored” groups (“blues” and “reds”).

Given the lack of empirical work in this area, it is difficult to make predictions about outcomes for dual-identity children who status is verified (via authority figures’

labeling and use of their group) versus unverified (e.g., ignored). Dual-identity children who are treated as members of “red” and “blue” groups (i.e., unverified) may feel a lack of connection to their group, which may, in turn, produce lower levels of group identification and ingroup bias compared to dual-identity children whose identity is verified. On the other hand, it is possible that “unverified” dual identity children will, as a result of their atypicality, show an increased motivation to identify with their group, as would be predicted by Brewer’s (1991) optimal distinctiveness theory. These children may, therefore, show stronger valuing of group membership, ratings of similarity to the ingroup, and ingroup biased attitudes than their verified peers.

Competing hypotheses can also be made concerning outcomes among dual-identity children whose status is “verified” compared to single-identity children. Dual-identity children in verified groups may develop ingroup biased attitudes in ways that directly parallel their single-identity peers and thus show equivalent group views and levels of intergroup bias as their single-identity peers. On the other hand, such children may—even when verified as belonging to a distinct social group—recognize their partial membership in other groups and, as a consequence, show less identification with the ingroup, and lower levels of intergroup bias, than their single-identity peers.

As suggested by Root, it is unlikely that all children react to dual identity status in the same way. One individual difference that may be associated with reactions to single- versus dual-identity status is conformity (Asch, 1952, 1956; Berndt, 1979; Savin-Williams & Berndt, 1990). Existing research indicates that ingroup members who conform to group norms are viewed more favorably than ingroup members who violate

group norms (e.g., Crick, 1997; Egan & Perry, 2001; Olweus, 1992; Smith & Leaper, 2006). Interestingly, loyalty to the ingroup (e.g., favoring one's own country's soccer team) is an important dimension of conformity and affects children's evaluations of ingroup and outgroup members (e.g., Abrams, Rutland, & Cameron, 2003). Such findings provide support for the notion that dual-identity children may be rejected by their single-identity peers for their presumed lack of conformity to ingroup norms. Furthermore, they suggest that the desire to conform may affect children's group views and intergroup attitudes. Among single-identity children, high conformers should show higher satisfaction with their group membership (i.e., higher ratings of group importance, happiness, and similarity) than low conformers. Among dual-identity children, in contrast, high conformers should show lower satisfaction with their group membership than low conformers.

A final factor of interest was the role of development in moderating the consequences in dual versus single identity status. Most models of multi-racial identity development posit change over time as a result of either accumulated personal experience (e.g., Poston, 1990), age-related changes in children's cognitive skills (Kerwin and Ponterotto, 1995) or both factors (Kich, 1993). Empirical evidence supports the notion that identities change over time, although not necessarily in uniform ways. Hitlin, Brown, and Elder, Jr. (2006), for example, demonstrated that some multiracial adolescents were more likely to identify with only one racial group later in life, whereas others were more likely to identify with more than one racial group later in life. Furthermore, patterns of change were moderated by SES, self-esteem, and intelligence.

Logistical factors made it impossible to collect longitudinal data that might address the role of age-related change in shaping identity in this study. Instead I collected cross-sectional data among children from ages 6 to 11 with the goal of examining whether age was associated with differing consequences of dual-identity status. Based on theoretical models of biracial identity development, I expected younger children to be less satisfied with their dual status than older children. That is, I expected younger dual-identity children to show lower levels of group importance, happiness, and perceived similarity to ingroup than older dual-identity children. I expected the reverse patterns among single-identity status children. That is, I expected younger single-identity children to show higher levels of group importance, happiness, and perceived similarity to ingroup than older single-identity children.

Method

Participants

Participants were 91 elementary-school-age children (41 boys, 47 girls) attending a summer school program in the Midwest. The program draws from students from approximately twenty different elementary schools serving predominantly middle-class European American populations. Fifty-one additional children were enrolled in the program (and wore colored tee-shirts) but were not tested because of extended school absences ($n = 12$) or lack of parental consent ($n = 39$). Participants ranged in age from 7 years, 1 month, to 12 years, 1 month ($M = 113$ months, $SD = 15.9$ months). The majority of children ($n = 79$) were European American; 3 were African American, 6 were Asian American, 1 was Latino, and 2 were multiracial.

Prior to the start of the study, children were grouped according to age and assigned to one of eight classrooms. Classroom ranged in size from 15 to 23 pupils. Classrooms were then matched on the basis of age level and randomly assigned to one of three conditions (two validated color, three validated color, and colorblind, described below); one fewer classroom participated in the colorblind than other two conditions. Participants' characteristics within each condition are presented in Table 1.

Overview of Procedure

Students attended class from 7:30 am until noon each weekday. On the first day of summer school, children were matched by gender within classrooms and randomly assigned to receive one of three colored tee-shirts to wear daily: red, blue, or bicolored (see Figure 1). Thus, one third of each class wore a red, blue, or bicolor t-shirts, with approximately equal numbers of boys and girls in each color group. After two weeks in their classrooms, children completed (in the order listed) measures of: (a) views of group membership (i.e., importance, satisfaction, perceived similarity, preference), (b) intergroup attitudes (i.e., traits ratings, group evaluations, peer preferences), (c) categorization complexity, and (d) conformity.

Experimental Conditions

Overview. Teachers met with the experimenter prior to the start of the school to received instructions concerning the color groups. As in other similar research (Bigler, et al., 1997, 2001), teachers were instructed to treat the color groups equally and prohibit competition between groups. In addition, teachers were instructed to handle any negative or discriminatory statements based on color group membership in the same way they

would handle any discriminatory statement (e.g., by stating that such statements are incorrect and unkind).

Two validated color condition. Teachers in this condition made frequent use of the two mono-colored groups (“reds” and “blues”) to organize and structure the classroom. For example, teachers (a) assigned physical space (e.g., seating plans), (b) structured classroom activities (e.g., lining up at the door), and designated tasks (e.g., passing out papers) by using the two color group. Students who wore bicolored shirts were never recognized as a separate social group and teachers used only the labels “red” or “blue” when referring to groups (e.g., “Good morning, reds and blues”). When the two colors groups were used to organize their classroom activities, students in the bicolored group were allowed to join the color group of their choice. That is, when dual-identity students asked for clarification about their role, teachers stated, “You may go with either group.”

Three validated color condition. Teachers in this condition made use of all three color groups to label children, organize the classroom, and structure activities. That is, teachers made frequent use of the labels: “red,” “blues,” and “bicolors.” For example, when greeting students, teachers stated, “Good morning reds, blues, and bicolors.” Teachers also organized activities and seating so that children with bicolored shirts were treated as a separate (third) group.

Colorblind condition. Teachers in this condition were asked to ignore the color groups in their classroom. They were prohibited from using labels for the color groups and from organizing the classroom or its activities with respect to these groups.

Posttest Measures

Overview. After two weeks in the classrooms, children were given a series of posttest measures. To minimize boredom, testing was separated in three short sessions. All measures are included in Appendix A.

Views of Group Membership

Importance. Participants were asked, “How important is being a [blue, red or bicolored] group member to you?” with response options ranging from “not important” (1) to “very important” (4).

Happiness. Participants were asked, “How happy are you to be in the [blue, red or bicolored] group?” with response options ranging from “not happy” (1) to “very happy” (4).

Similarity. Participants were also asked to rate how similar they believed themselves to be to each of the color groups using response options that ranged from “not at all” (0) to “a lot” (4).

Preference. Participants were asked, “If you could choose the color of your shirt, would you choose a blue shirt, a red shirt, or a bicolored shirt?” and “If a new student came to your class, would that student choose a blue shirt, a red shirt, or a bicolored shirt?”

Intergroup Attitudes

Peer preferences. Participants rated how much they liked to play with each of the other children in their class, using the response options “a lot” (3), “a little” (2), or “not

too much” (1). Scores were averaged to obtain composite ratings for ingroup (i.e., same shirt color) peers and outgroup (other shirt color) peers.

Trait ratings. Participants rated how many members of each color group (“red,” “blue,” and “bicolors”) possess seven positive traits (friendly, helpful, nice, pretty/handsome, smart, good, hard working), as in previous research by Bigler and colleagues (Bigler, 1995; Bigler, et al., 1997; Bigler, et al., 2001; Brown & Bigler, 2002). Response options were “all of the [blue, red or bicolored] group” (3), “most of the [blue, red or bicolored] group” (2), “some of the [blue, red or bicolored] group” (1), or “none of the [blue, red or bicolored] group” (0). Averaged scores were created for children’s ratings of each color group and thus possible scores ranged from 0 to 3, with higher scores indicating more positive views.

Competency ratings. Participants were asked to predict the performance of the color groups in both positive and negative contexts. For example, children predicted which color group would win a spelling bee and earn the most time-outs for negative classroom behavior. For each question, children selected the red group, blue group, bicolored group, or a “tie.”

Summer camp president election. Students in each classroom were asked to participate in a school-wide election. Posters listing the (fictitious) candidates for summer camp president were hung in each room (see Appendix C). Each candidate’s color group membership (one each from the red, blue, or bicolored groups) was depicted. Children were told that the candidates were students from another class. On election day, children

were given small reproductions of the poster and asked to circle the name of the candidate for whom they would like to vote.

Categorization Complexity

Children were presented with a stack of shuffled laminated cards with pictures of adults and children of both sexes in various t-shirts (see Appendix D). Children were told: “Kids often get playing cards like Pokemon or sometimes kids collect baseball cards. Some kids will want to organize these cards based on how similar the cards are to each other or how they could be related. Here is a set of cards. Organize them into different stacks based on any similarities you see. There is no correct answer. You can have any number of stacks.” Children then sorted the cards together and the number of different groups that they created was recorded. In addition, all children were asked why they sorted the cards in the way they did and their explanation (i.e., basis for grouping) was recorded.

Conformity

Children’s tendency to conform to peer groups was assessed using the behavioral conformity subscale of Abrams’s (1985) Conformity Measure (see Appendix B). This scale is designed to measure the extent to which children look to peers to provide behavioral standards. Specifically, children were asked to rate the extent to which a series of statements (i.e., “I like to be the same as my friends.”) is true of themselves. Response options ranged from “really true for me” (4) to “really not true for me” (1). Children’s responses to the items were averaged; possible scores ranged from 1 to 4. Cronbach’s alpha for the behavioral conformity was in the acceptable range (.70).

Results

Overview

The primary questions of interest were whether children with single versus dual social group memberships would differ in their view of group membership and intergroup attitudes and, furthermore, whether the possible effects would differ across classroom contexts or conditions (i.e., classroom in which teachers labeled and used three, two, or no novel color groups). Because the design dictated that a greater number of children be assigned to single (i.e., “red” and “blue”) than dual (half red/half blue or “bicolored”) identities, cell sizes were discrepant and, as a consequence, statistical power associated with analyses of variance was unacceptably low. Thus, I tested for effects of identity status (single vs. dual) and condition (2-verified, 3-verified, and colorblind) on the dependent variables using hierarchical linear modeling. In these models, I tested individual-level data (shirt color: single vs. dual identity) nested within group-level data (conditions: 2-verified, 3-verified, colorblind) in predicting a series of dependent variables. In addition, the cross-level interactions (i.e., interactions between the individual and group level data) were tested.

Effects of sex of participant and classroom within condition were analyzed via preliminary HLM models. Results indicated no significant effects or interactions involving these variables and so data were pooled across variables. Means and standard deviations for all dependent variables appear in Table 2.

Effects of Identity Status and Condition on Views of Group Membership

Importance. Results indicated no significant differences of single versus dual identity, (i.e., student-level variable), treatment condition, (2-verified, 3-verified, colorblind; the classroom level, or group-level variable) or the cross-level interaction on children's ratings of the importance of their group membership. Children considered their membership to their t-shirt color to be moderately important whether assigned to a single or dual identity or a classroom in which teachers made use of three, two, or no color groups to organize their classroom.

Happiness. Results indicated no significant differences of single versus dual identity, (i.e., student-level variable), treatment condition, (2-verified, 3-verified, colorblind; classroom level, or group-level variable) or the cross-level interaction on children's ratings of their happiness with their group membership. Children expressed moderate, and equivalent happiness with their group membership whether they were assigned a single or dual identity, or a classroom in which teachers made use of three, two, or no color groups to organized their classroom.

Similarity. To compute a single index of perceived similarity, children's ratings of similarity to outgroup members (e.g., a blue child's ratings of similarity to red and bicolored children) were averaged then subtracted from ratings of their similarity to ingroup members (e.g., blue children). Thus, positive scores indicate greater perceived similarity to ingroup than outgroup members; negative scores indicate greater perceived similarity to outgroup than ingroup members. To examine whether children showed an overall similarity bias in favor of the ingroup, a t-test was conducted comparing perceived similarity ratings to chance (0). Results indicated that children viewed

themselves as significantly more similar to ingroup than outgroup members, $t(79) = 2.65$, $p < .01$, $M = 0.45$, $SD = 1.52$.

HLM analyses indicated significant effects of identity status, condition, and their interaction on children's perception of similarity to groups (see Tables 3 and 4). Overall, children with dual identities rated themselves as more similar to their ingroup than children with single identities. Additionally, students in the 2-verified condition rated themselves as more similar to their ingroup than their peers in the other two (3-verified and colorblind) conditions. Finally, the cross-level interaction of identity status and condition was significant (i.e., the slopes of the effect for identity status varied across the three conditions). As can be seen in Figure 1, dual-identity children in the 2-verified condition saw themselves as more similar to the ingroup (i.e., bicolored children) than dual-identity children in the 3-verified or colorblind conditions.

Preference. Effects of identity status and condition on desire to maintain versus change one's shirt color were examined with chi-square analyses. Chi-square tests of independence were used to compare the frequency with which children with single- versus dual-identities, and children in 2-verified, 3-verified, and colorblind conditions wanted to maintain their shirt color. A chi-square test of independence did not show a significant effect of either identity or condition. The possible interaction between identity and condition was examined by making comparison across conditions for children *within* identity groups. Among *dual* identity children, a chi-square test of independence indicated a significant effect of condition $\chi^2 [2, N = 62] = 6.29$, $p < .05$; goodness of fit analyses indicated that dual-identity children in the 2-verified condition (92%) were more

likely to want to keep their shirt color than that expected by chance (50%, $\chi^2 [1, N= 62] = 8.33, p < .01$). Children in the other conditions (i.e., 3-verified and colorblind) did not differ from chance. Among *single* identity children, a chi-square test of independence did not indicate a significant effect of condition.

New student's preference. Effects of identity status and condition on predicting a new-student's preference of shirt color were also examined with chi-square analyses. A chi-square test of independence showed a significant effect of identity, $\chi^2 [1, N= 91] = 5.38, p < .05$. Follow-up goodness of fit tests indicated that single-identity children were more likely to predict that a new-student would want to select a single-identity shirt (63%) than expected by chance (50%, $\chi^2 [1, N= 62] = 4.13, p < .05$). Dual-identity children did not differ significantly from chance. A chi-square test of independence also showed a significant effect of condition, $\chi^2 [2, N= 91] = 11.67, p < .05$. Follow-up goodness-of-fit tests indicated that children in the colorblind condition were more likely to predict that a new-student would want a single-identity shirt (70%) than predicted by chance (50%, $\chi^2 [1, N= 27] = 4.48, p < .05$). In contrast, children in the 2-verified condition were more likely to predict that a new-student would want a dual-identity shirt (69%) than predicted by chance (50%, $\chi^2 [1, N= 35] = 4.8, p < .05$). Children in the 3-verified condition did not show a significant difference above chance. Finally, the possible interaction between identity and condition was examined by making comparisons across conditions for children *within* identity groups. Among *single* identity children, a chi-square test of independence indicated a significant effect of condition $\chi^2 [2, N= 62] = 6.28, p < .05$; goodness-of-fit analyses indicated that single-identity children

in the 3-verified condition (78%) were more likely to predict that a new student would want a single-identity shirt to wear than expected by chance (50%, $\chi^2 [1, N= 23] = 7.35, p < .01$). Single-identity children in the other conditions did not differ from chance. Among *dual* identity children, a chi-square test of independence indicated a significant effect of condition $\chi^2 [2, N= 34] = 10.10, p < .01$; goodness-of-fit analyses indicated that dual-identity children in the 2-verified condition (92%) were more likely to predict that a new student would want a dual-identity shirt than expected by chance (50%, $\chi^2 [1, N= 12] = 8.33, p < .01$).

Effects of Identity Status on Intergroup Attitudes

Peer preferences. For each child, ratings were averaged across ingroup and outgroup peers. To compute a single index of intergroup bias, children's average rating of outgroup peers were subtracted from their average ratings of ingroup peers. So, for example, a blue child's average ratings of their red and bicolored peers would be subtracted from their average rating of red blue peers. Thus, more positive scores indicate greater ingroup bias. A t-test was conducted comparing bias ratings to chance (0).

Effects of condition and group membership on peer preference ratings were examined with HLM. As can be seen in Table 5, the significant intercept indicates that, overall, students preferred outgroup to ingroup peers. There were no significant effects at the student (i.e., identity status) or classroom (condition) level, nor was there a significant effect of the cross-level interaction term on peer preference ratings.

Trait ratings. To compute a single index of ingroup bias, children's ratings of the outgroup were subtracted from their ratings of ingroup. Thus, more positive scores

indicate greater ingroup bias. To examine whether children showed an overall bias in favor of the ingroup, a t-test was conducted comparing levels of bias on trait ratings to zero. Results indicated that trait ratings were not significantly different from chance. Effects of condition and group membership on trait ratings were examined with HLM. There was no significant effect at the student or classroom level in predicting trait ratings, nor was there a significant effect of the cross-level interaction term. Across groups, children rated ingroups and outgroups equivalently.

Competency ratings. Children's judgments of which groups would perform best at certain contests were separated into 3 competencies: positive academic (i.e., school-related tasks on which one would want to perform well, such as a math contest), negative academic (i.e., school-related tasks on which one would *not* want to perform well, such as forgetting one's homework), and overall success. Students received a score of +1 for making an ingroup-biased attribution, 0 for evaluating the groups equivalently (i.e., a tie), and -1 for making outgroup an attribution. Scores were then averaged across sets of items (i.e., positive academic, negative academic, and overall success). Higher positive numbers indicate greater ingroup bias, whereas higher negative numbers indicate greater outgroup bias.

For positive academic competencies, children's ingroup responses differed significantly from chance, $M = -.19$, $t(86) = -2.64$, $p = .01$. Effects of condition and group membership on positive academic competencies were examined with HLM. As can be seen in Table 6, dual-identity children were more likely to ascribe positive competencies to their ingroup than their single-identity peers. In addition, children in the 2-verified

condition were more likely to ascribe positive competencies to their ingroup members than their peers in the other two conditions.

For negative academic competencies, children's ingroup responses were significantly above chance, $M = -.52$, $t(86) = -9.15$, $p < .001$. Effects of condition and group membership on negative academic competencies were examined with HLM. Overall, students were more likely to ascribe negative competencies to outgroup members than ingroup members.

For overall success, children's ingroup responses did not significantly differ from chance. Effects of condition and group membership on negative academic competencies were examined with HLM. As can be seen in Table 6, dual-identity children were more likely to ascribe success to their own ingroup members than their single-identity peers.

Summer camp president election. Students were able to vote for one of three candidates for summer camp president (see Appendix C). Each candidate represented one group: red, blue, or bicolored. Effects of condition and group membership on voting behaviors for summer camp president were examined with chi-square analyses. A chi-square test of independence showed a significant effect of identity, $\chi^2 [1, N= 91] = 18.6$, $p < .05$. Follow-up goodness of fit tests indicated that dual-identity children did not significantly differ from chance on their preference for a single or dual-identity summer camp president, but single-identity children were more likely to vote for a single-identity president (80%) than expected by chance (50%, $\chi^2 [1, N= 91] = 24.5$, $p < .01$). A chi-square test of independence did not show a significant effect of condition. Finally, the possible interaction between identity and condition was examined by making

comparisons across conditions within identity groups. Chi-square tests of independence indicated no significant effect of condition within either identity group.

Categorization Task

To examine effects of identity status and condition on the complexity of their thinking about social stimuli, children were asked to sort unfamiliar individuals who varied along multiple dimensions (see Appendix D) into groups. Effects of condition and group membership on the number of groups children were examined with HLM. Results indicated that the individual-level predictor, identity status, was a significant predictor of the number of groupings (see Table 7). Dual-identity children used a greater number of categories to sort the individuals than their single-identity peers.

Individual and Developmental Differences

Overview. While the primary purpose of this research was to examining group-level effects of single versus dual-group membership and identity verification on children's own-group views and intergroup attitudes, a secondary purpose of this research was to examine whether children's age and tendency toward conformity moderate the consequences of these variables. To examine this question, regression analyses were used. Specifically, children age, conformity scores, and condition were entered as predictor variables in a series of regressions using group views and intergroup attitude measures as outcome variables.

Group Views. Age significantly predicted degree of in-group similarity (see Table 18). Older children tended to see themselves as more similar to their in-group. Cross-

level interactions with age, conformity and manipulation were not significant in predicting similarity.

Intergroup Attitudes. Age also significantly predicted the number of in-group peers and peer preference. Specifically, older children tended to have less in-group peers and more out-group peers. A main effect of condition was also found when age and conformity scores were included in the regression equations, predicting the number of children's out-group peers. Specifically, children in the colorblind condition tended to have more out-group peers than children in the 3-verified condition. Additionally, conformity scores significantly predicted children's degree of peer preference. Specifically, the higher the children scored on conformity the less likely they were to have out-group peers. The interaction of age and condition was significant in predicting peer preference, $\beta = 5.5$, $t(27) = 2.3$, $p < .05$ and explained a significant amount of variance in peer preference, $R^2 = .32$, $F(5, 27) = 3.6$, $p < .01$. Specifically, older children in the 2-verified and colorblind conditions were more likely to have more out-group peers than younger children, but this trend was reversed for children in the 3-verified condition. Younger children in the 3-verified condition were more likely to have more out-group peers than the older children in the same condition.

Discussion

The primary purpose of the study was to examine the effects of single- versus dual-group membership on children's own-group views and intergroup attitudes. Previous theoretical and empirical work suggests that dual-identity individuals face unique issues regarding their identity development. Unlike their single-identity peers,

dual-identity children face two primary issues: (1) constructing an identity (or identities) on the basis their dual memberships and (2) negotiating their social world given their “atypical” status as ingroup members. Although a good deal of research indicates that dual- and single-identity individuals differ on many psychological outcomes (Gillem et al., 2001; Logan, 1981; Rockquemore & Brunsma, 2002a, 2002b), the interpretation of the literature is clouded by the correlational nature of the extant data and the impossibility of disentangling dual-identity *per se* from the consequences of membership in particular groups. I sought to extend the literature by conducting an experimental study of the causal effect of single- versus dual-identity status on children’s group views and intergroup attitudes. Specifically, I used a novel group paradigm in which elementary-school-age children were randomly assigned to a single (“blue” or “red) versus a dual (half red, half blue) identity.

It is the case, however, that individuals construct identities within particular social contexts. The social context for American individuals with multiracial identities has, for example, been changing from one in which their identity as multiracial individuals was unrecognized (i.e., subsumed within mono-racial groups) to one in which they are recognized as a distinct, legitimate social group. These differing contexts are likely to affect the group views and intergroup attitudes of dual-identity individuals. To examine the consequence of subsuming dual-identity individuals within single-identity groups versus treating such individuals as members of a separate autonomous minority group, I manipulated authority figure’s “verification” of dual-group status. Thus, teachers in some classrooms were instructed to label and make use of three social groups (“blues,” “reds,”

“bicolors”) to organize their classrooms, whereas teachers in other classrooms were instructed to label and make use of only the two “mono-colored” groups (“blues” and “reds”) and still another group was asked to ignore the color groups altogether.

Overall, the results of the study suggest that both dual-identity status and verification affect children’s views of social groups. The first set of outcomes examined concerned children’s views of their on group membership. There were no effects of experimental manipulations of identity or verification on children’s global ratings of their happiness with their group membership or the importance of their group membership. However, perceptions of similarity to the ingroup were affected by the experimental manipulations. Results indicated that dual-identity children in the 2-verified condition perceived themselves as more similar to their ingroup (i.e., bicolored peers) than dual identity children in the 3-verified or colorblind conditions. In other words, dual-identity children seemed to feel an especially strong kinship to others who looked like them when their status went unrecognized and they were explicitly made members of mono-colored groups.

The fact that dual-group members will not only recognize but also feel more similar to their other dual-group members can be seen with many multiracial celebrities. Celebrities like Hines Ward and Tiger Woods are often criticized for not declaring a single-identity (e.g., Sang-Hun, 2006; Kamiya, 1997). Instead of committing to one group, these multiracial celebrities tend to declare their membership to a separate multiracial group and commit themselves to causes that they know other multiracials experience (e.g., discrimination, see, Funder, 2006). Multiracial celebrities, like dual-

identity children in the 2-verified condition, are told explicitly to choose a mono-racial group with which to identify—one in which does not reflect their own sense of identity. This social order can create complications and opportunities for discrimination as the dual-group child weaves in and out of single-group identities; ignoring their dual-group identity. As other researchers have noted (e.g., Shih & Sanchez, 2005), single-group children do not have to experience the pull and tug between groups, and thus dual-identity children are likely to find their unique identity issues as a similarity they share strongly with other dual-identity children.

Dual-identity children in the 2-verified condition were unique among the groups in other ways as well. Nearly all of the dual-identity children in this condition (92%) wanted to keep their shirt color. Additionally, dual-identity children in the 2-verified condition were more likely to assume that a new student to the school would want a bicolor shirt than dual-identity peers in the other conditions. These findings seem to reflect the unique position dual-identity members face when their in-group is not explicitly recognized and they are able to decide for themselves which of two possible single-identity groups to join. In this situation, the dual-identity children in this study seemed to construct a group identity that was characterized by choice and mutability. Informal classroom observations indicated that bicolored children in 2-verified classrooms often switched group affiliations, sometimes doing so when membership in a particular group was beneficial (i.e., they got first choice in some activity). Although their single-identity peers sometimes protested their presence, the dual-identity children often blended seamlessly with both of the single color groups. Those dual-identity

children who are placed in the unique position of being able to belong to either one of two possible single identity groups may be less willing to give up such a privilege than their dual-identity peers whose group membership is fixed. They are likely to assume that other people would want a similar opportunity. These data suggest that, although dual-identity status is often viewed as inherently problematic, this may not be the case. Nearly all of the available research on children who are members of more than one social group confounds dual-group and stigmatized identity (i.e., dual-identity children are typically members of a stigmatized group). These data suggest that when social groups are equally positive, dual-identity status may be psychologically advantageous relative to single-identity status.

The second set of outcomes examined concern children's intergroup attitudes. Results indicated no significant effects on peer preferences or trait ratings. However, when it came to competency ratings, children's ratings differed significantly across groups. With respect to positive competencies (e.g., being good at math or winning a spelling bee contest) and general academic success, dual-identity children showed greater in-group bias than single-identity children. Such bias may again be indicative of the unique experiences felt by these dual identity children, whose novel t-shirts may have given them the feeling that they were "special." The effect of atypicality on one's in-group bias of positive competencies and success has been demonstrated in another study using this same experimental methodology (Patterson & Bigler, 2007).

Somewhat surprisingly given their ingroup bias on the competency measures, dual identity children did not prefer a dual-identity president. Instead, single-identity

children were overwhelmingly biased in favor of a single-identity president. This may be because both single- and dual-identity children can identify with a single-identity candidate, but a single-identity child cannot identify with a dual-identity candidate (e.g., a bicolor child has both red and blue, and thus could identify with either a single blue or red child, but a blue child cannot identify with a red child and may feel like the bicolor child is too removed from their in-group by their dual membership with the red group). Thus, dual-identity children may have felt like they had more options when it came to selecting a camp leader or president than single-identity children, whose votes were restricted by their more exclusive in-group.

Some researchers have suggested that having a dual membership may not only provide unique experiences for dual identity members, but also provide new insights and cognitive flexibility (e.g., Hitlin, Brown, & Elder, 2006). In this study, dual identity children did demonstrate more cognitive flexibility by creating more unique groups to categorize novel stimuli. Single-identity children tended to sort the cards into two groups: bicolor and monicolor. Dual identity children, in contrast, created a greater number of categories by considering characteristics of the individuals other than their shirt colors (e.g., age and sex). Whether or not a dual identity child's identity is verified or recognized in their classroom, dual identity children must contend with the fact that they are inherently different from their single-identity peers. Their appearance is similar to their single-identity peers' appearance in some respects, but their unique combination of red and blue also makes them unique. The fact that these children must consider that their identity is not simply a matter of appearance (as it is for single-identity children)

may alert dual identity children to the fact that there are other aspects besides obvious characteristics of a person or object that must be considered when making a judgment about that person or object.

Age was a significant predictor in children's perceptions of similarity to their in-group and peer preferences. Older children saw themselves as more similar to their in-groups; however older children were also more likely to have out-group peers. These results replicate findings in other studies that have found that older children identify more with their in-group (e.g., religious affiliation, see Takriti, Buchanan-Barrow, & Barrett, 2000) but that older children also demonstrate less prejudicial treatment towards their out-group peers (e.g., Doyle & Aboud, 1995). Additionally, it is not surprising that children who conform more to their in-group would show more preference to play with their in-group friends.

In summary, this study used a minimal group paradigm (Bigler, Jones, & Lobliner, 1997; Nesdale & Flessner, 2001; Yee & Brown, 1992) to better understand the psychological development of dual- versus single-identity status group members. The results, although not highly consistent across measures, demonstrated that dual-group members in non-verified environments often showed stronger attachment to, and biases toward, their ingroup their peers in other conditions. Specifically, these children were more likely to (a) perceive themselves as similar to other ingroup members (i.e., bicolored children), (b) want to keep their shirt color, and (c) assume that a new student would want their shirt color than their peers. They also showed higher levels of bias in their competency ratings of groups than their peers and demonstrate a greater cognitive

flexibility when thinking about social categories than their single-identity peers. Overall, these results suggest that dual-identity children do experience identity issues differently than their single-identity peers and that theories are needed to address the complexities of social membership and bias among children with dual memberships.

Although these data are valuable because they provide clues about the consequences of membership in dual social groups in a naturalistic setting, it is important to use caution in interpreting these findings. As is true of most research conducted in naturalistic settings, there are limitations to this study. Most obviously, the results are based on a relatively small and homogenous sample of summer school students, who may differ from regular classroom students in some systematic ways. It is also important to note that the novel groups used in this study differ from actual social groups in many significant ways. For example, most dual-group identity individuals (including multiracial individuals) are the numeric minority in their social group. That is, there are fewer multiracial individuals in a given population in the United States than there are monoracial individuals. This study, in contrast, had an equal representation of all groups (red, blue, and bicolours) in each classroom. Additionally, multiracial individuals tend to be stigmatized because of their membership in a lower-status social group, a condition that was not true of the dual-identity status individuals in this study. It will be necessary for future research to replicate these findings using more diverse samples and to extend this research by examining other characteristics (e.g., social segregation, power, and minority status) associated with actual social groups. Such research will be important for informing the design of social programs and policies aimed at building on psychological

strengths—and addressing possible psychological risks—among the increasing numbers of dual-identity status children in the United States and elsewhere.

Figure 1

Average Scores of Similarity to a Child's In-Group Across Conditions and Identities

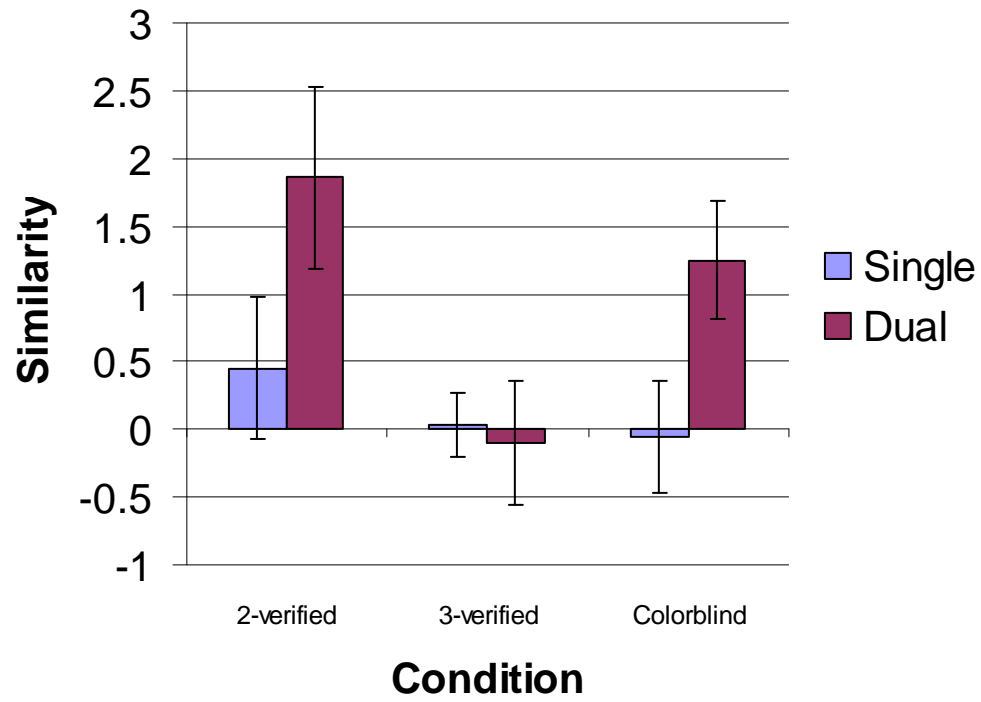


Table 1.

Participant Characteristics Across Conditions

	N	Gender	Age	Identity Status
Condition		Boys/Girls	M SD	Single/Dual
2-verified	28	8/20	102.4 15.7	18/10
3-verified	37	20/17	109.2 24.7	25/12
Colorblind	26	16/10	106.2 20.6	13/13

Table 2.

Means (and Standard Deviations) for Posttest Measures Across Conditions and Identities

Identity	Condition					
	2-Verified		3-Verified		Colorblind	
	Single	Dual	Single	Dual	Single	Dual
Group Views						
Importance	2.2 (1.3)	2.0 (0.9)	2.6 (1.0)	2.3 (1.3)	2.4 (1.3)	2.5 (1.3)
Happiness	2.0 (1.3)	1.8 (0.9)	2.3 (1.0)	2.6 (1.2)	2.4 (1.2)	1.9 (1.2)
Similarity	0.7 (1.7)	1.2 (1.9)	-0.2 (1.0)	0.5 (1.3)	.06 (1.4)	1.3 (1.4)
Intergroup Attitudes						
Ingroup trait	2.3 (0.4)	2.0 (1.0)	2.1 (0.7)	1.9 (1.1)	1.9 (0.7)	2.4 (0.6)
Outgroup trait	2.3 (0.4)	1.9 (0.9)	1.8 (0.7)	1.9 (1.0)	1.9 (0.7)	2.2 (.7)
Trait bias	0.0 (0.3)	0.1 (1.3)	0.3 (0.7)	0.1 (1.2)	-0.0 (0.3)	0.2 (0.5)
Ingroup peers	0.8 (0.4)	0.2 (0.5)	0.5 (0.5)	0.0 (0.0)	0.8 (1.8)	1.6 (1.1)
Outgroup peers	1.3(0.4)	0.9(.6)	0.9 (0.4)	0.7 (0.4)	1.5 (0.5)	0.9 (0.5)
Peer bias	-0.5(0.6)	-0.7(.8)	-0.4 (0.8)	-0.7 (0.4)	-0.7 (1.7)	0.7 (1.3)
Competencies						
Positive	-0.2 (0.2)	0.4 (0.2)	-0.4 (0.1)	0.2(0.3)	-0.7 (0.1)	0.1 (0.2)
Negative	-0.8 (0.1)	-0.6 (0.2)	-0.6 (0.1)	-0.2(0.2)	0.0 (0.3)	-0.4 (0.2)
Success	0.0(.3)	1.0 (0.0)	-0.1(0.1)	0.4(0.3)	-0.3 (0.4)	0.3 (0.2)

Ingroup President	77%	67%	77%	46%	85%	75%
Outgroup President	23%	33%	22%	54%	15%	25%
Number of Novel Categories	3.6(1.2)	5.3(4.0)	3.3(2.0)	4.8(0.8)	3.9(1.2)	4.8(2.0)

Note: where appropriate, “-“ numbers represent an outgroup bias or preference.

Table 3.

HLM Results for the Predictors of Children's Ratings for Group Importance, Happiness, and Similarity

	Importance	Happiness***	Similarity
Intercept	1.1 (0.7)	0.2 (0.2)	0.2 (0.2)
<i>Student Level Predictors</i>			
Shirt Color	0.3 (0.2)	0.2 (0.3)	0.6 (0.2)**
<i>Classroom Level Predictors</i>			
2-Verified	0.5 (0.9)	-0.2 (0.3)	0.6 (0.3)**
3-Verified	0.5 (0.4)	-0.2 (0.3)	-0.2 (0.3)
Colorblind	0.6 (0.6)	-0.2 (0.4)	0.1 (0.5)

Note: numbers presented are standardized parameter estimates, numbers in parentheses are standard errors

***Treated as a single level analysis because variance at higher levels was not significant enough to justify a multiple level analysis

**significant at <.01

Table 4.

HLM Results for the Interaction of Predictors of Children's Ratings of Similarity

	2-Verified	3-Verified	Colorblind
Shirt Color	0.6 (0.5)	-1.1 (0.5)**	0.6 (0.5)

Note: numbers presented are standardized parameter estimates, numbers in parentheses are standard errors

**significant at $<.01$

Table 5.

HLM Results for Predictors of Children's Ratings for Peer Preferences and Traits

	Peer Preferences	Trait
Intercept	-0.4 (0.2)*	0.0 (0.1)
<i>Student Level Predictors</i>		
Shirt Color	0.1 (0.2)	0.1 (0.1)
<i>Classroom Level Predictors</i>		
2-Verified	-0.0 (0.3)	-0.1 (0.1)
3-Verified	0.1 (0.2)	0.1 (0.1)
Colorblind	0.0 (0.3)	0.0 (.2)

Note: numbers presented are standardized parameter estimates, numbers in parentheses are standard errors

* significant at <.05

Table 6.

HLM Results for Predictors of Children's Ratings of Group Competencies

	Positive	Negative	Success
Intercept	-0.3 (0.12)	-0.7 (0.2)**	-0.1 (0.2)
<i>Student Level Predictors</i>			
Shirt Color	0.4 (0.0)**	0.1 (.1)	0.3 (0.1)**
<i>Classroom Level Predictors</i>			
2-Verified	0.2 (0.1)*	-0.1 (0.1)	0.2 (0.1)
3-Verified	0.1 (0.1)	-0.0 (0.1)	0.1 (0.1)
Colorblind	-0.2 (0.1)	0.1 (0.1)	-0.2 (0.1)

Note: numbers presented are standardized parameter estimates, numbers in parentheses are standard errors

** significant at <.001

* significant at <.05

Table 7.

HLM Results for Predictors of Children's Novel Categorization Task

Intercept	1.1 (0.2)**
<i>Student Level Predictors</i>	
Shirt Color	0.2 (0.1)*
<i>Classroom Level Predictors</i>	
2-Verified	0.1 (0.3)
3-Verified	-0.0 (0.0)
Colorblind	0.1 (0.3)

Note: numbers presented are standardized parameter estimates, numbers in parentheses are standard errors

** significant at <.001

* significant at <.05

Table 8.

Percentage of Children who Desired to Change their Shirt to Red, Blue, or Bicolored

Across Identities

	Identity	
	Single	Dual
Keep	55%	67%
Change to Red	0%	22%
Change to Blue	7%	11%
Change to Bicolored	38%	0%

Table 9.

Percentage of Children who Desired to Change their Shirt to Red, Blue, or Bicolored

Across Conditions

	Condition		
	2-Verified	3-Verified	Colorblind
	<i>n</i> = 35	<i>n</i> = 35	<i>n</i> = 27
Keep	60%	62%	59%
Change to Red	3%	3%	22%
Change to Blue	3%	5%	12%
Change to Bicolored	33%	30%	7%

Table 10.

Percentage of Children Wanting to Keep their Group Membership

		Keep it	Change to red	Change to blue	Change to Bicolor
2-verified	Single	44%	0%	4%	52%
	Dual	92%	8%	0%	0%
3-verified	Single	57%	0%	0%	43%
	Dual	73%	9%	18%	0%
Colorblind	Single	68%	6%	13%	13%
	Dual	46%	45%	9%	0%

Table 11.

Percentage of Children Wanting to Keep their Group Membership Across Conditions

	Condition					
	Colorblind		2-Verified		3-Verified	
	<i>n</i> = 27		<i>n</i> = 35		<i>n</i> = 35	
Identity Status	<i>Keep</i>	<i>Change</i>	<i>Keep</i>	<i>Change</i>	<i>Keep</i>	<i>Change</i>
Single	69%	31%	43%	57%	56%	44%
Dual	45%	54%	92%	8%	60%	40%

Table 12.

Percentage of Children Predicting a New Student's Preference of Shirt Color Across Identities

	Identity		
	Red	Blue	Dual
Want Red	67%	13%	21%
Want Blue	6%	64%	32%
Want Bicolor	27%	23%	48%

Table 13.

Percentage of Children by Condition Predicting a New Student's Preference of Shirt

Color Across Conditions

	Condition		
	2-Verified	3-Verified	Colorblind
	<i>n</i> = 35	<i>n</i> = 35	<i>n</i> = 27
Want Red	20%	30%	52%
Want Blue	11%	59%	19%
Want Bicolor	69%	27%	30%

Table 14.

Percentage of Children Predicting a New Student's Preference of Shirt Color Across
Conditions and Identities

		New Kid's Shirt Color		
		Red	Blue	Bicolor
2-verified	Single	26%	17%	57%
	Dual	8%	0%	92%
3-verified	Single	30%	48%	22%
	Dual	18%	18%	64%
Colorblind	Single	56%	13%	31%
	Dual	46%	27%	27%

Table 15.

Means and Standard Errors of Self-Group Similarity Across Identity

<i>Identity</i>	<i>M</i>	<i>SE</i>
Single	.081	.22
Dual	.868	.33

Table 16.

Means and Standard Errors of In-group Peer Preference Across Conditions

	<i>M</i>	<i>SE</i>
Colorblind	.456	.39
2-Verified	-.917	.33
3-Verified	-.385	.39

Table 17

Intergroup Correlation Matrix

	2	3	4	5	6	7	8	9
1 Ingroup trait	.480**	.514**	.378†	.309	.224	-.387**	-.389**	.310**
2 Outgroup trait		-.506**	.321	.332	.158	-.373**	-.336**	.158
3 Trait bias			.076	-.021	.083	-.016	-.054	.192
4 Ingroup peers				.098	.883**	-.099	-.097	-.195
5 Outgroup peers					-.382†	-.269	-.429†	-.306
6 Peer bias						.027	.101	-.050
7 Group happiness							.579**	-.312**
8 Group importance								-.273**
9 Self/Group similarity								

Table 18

Betas of Age, Conformity, and Manipulation on Dependent Variables.

	Age		Conformity		Manipulation	
	β	t-stat	β	t-stat	β	t-stat
Group Views						
Importance	-0.1	(-0.9)	-0.2	(-1.5)	0.1	(0.8)
Happiness	-0.1	(-0.5)	-0.1	(-0.9)	0.1	(0.6)
Similarity	0.3*	(2.0)	0.2	(1.5)	-0.1	(-0.5)
Intergroup Attitudes						
Ingroup trait	0.0	(0.0)	0.1	(0.9)	-0.1	(-0.4)
Outgroup trait	0.0	(0.3)	0.2	(1.4)	-0.1	(-0.7)
Trait bias	0.0	(-0.3)	-0.1	(-0.4)	0.0	(0.3)
Ingroup peers	-0.4*	(-2.2)	-0.3	(-1.7)	-0.3	(-1.6)
Outgroup peers	0.3	(1.3)	0.2	(0.9)	-0.3*	(-2.1)
Peer bias	-0.6**	(-2.8)	-0.4*	(-2.1)	-0.1	(-0.5)
Competencies						
Positive	0.0	(0.2)	-0.2	(-1.5)	0.0	(0.1)
Negative	0.2	(1.2)	-0.1	(-0.8)	0.0	(0.3)
Success	0.3	(1.9)	0.0	(-0.1)	0.1	(0.4)
Number of Novel Categories	0.2	(1.2)	0.0	(-0.5)	-0.1	(-1.1)

** significant at $<.01$ * significant at $\leq .05$

Appendix A: Intergroup Outcome Measures

GROUP IMPORTANCE

You are in the _____ group. How important is being a _____ group member to you?

Very important Pretty important A little important Not important

GROUP HAPPINESS

How happy are you to be the _____ group?

Very happy Pretty happy A little happy Not happy

GROUP PREFERENCE

1. If you could change the color of your shirt, would you change it or would you keep the color shirt you have now?

Keep It Change It

2. If a new student came to your class, would that student pick a red shirt, a blue shirt, or a bicolored shirt?

Red Blue Bicolored

GROUP SIMILARITY

How much are you like the kids in the red group?

0-not at all alike 1-a little alike 2-somewhat alike 3-pretty much alike 4-a lot alike

How much are you like the kids in the blue group?

0-not at all alike 1-a little alike 2-somewhat alike 3-pretty much alike 4-a lot alike

How much are you like the kids in the bicolored group?

0-not at all alike 1-a little alike 2-somewhat alike 3-pretty much alike 4-a lot alike

PEER PREFERENCE

How much do you like to play with _____? A lot, a little, or not too much?

Name	A LOT	A LITTLE	NOT TOO MUCH
_____	3	2	1
_____	3	2	1
_____	3	2	1
_____	3	2	1
_____	3	2	1
_____	3	2	1
_____	3	2	1
_____	3	2	1
_____	3	2	1
_____	3	2	1
_____	3	2	1
_____	3	2	1

TRAIT RATINGS

Think about the kids in **RED** group in this school. How many of the children in the RED group are:

	ALL	MOST	SOME	NONE
Friendly	3	2	1	0
Helpful	3	2	1	0
Nice	3	2	1	0
Pretty or Handsome	3	2	1	0
Smart	3	2	1	0
Good	3	2	1	0
Hard Working	3	2	1	0

Now, think about the kids in the **BLUE** group in this school. How many of the children in the **BLUE** group are:

	ALL	MOST	SOME	NONE
Friendly	3	2	1	0
Helpful	3	2	1	0
Nice	3	2	1	0
Pretty or Handsome	3	2	1	0
Smart	3	2	1	0
Good	3	2	1	0
Hard Working	3	2	1	0

Now, think about the kids in the **BICOLORED** group in this school. How many of the children in the **BICOLORED** group are:

	ALL	MOST	SOME	NONE
Friendly	3	2	1	0
Helpful	3	2	1	0
Nice	3	2	1	0
Pretty or Handsome	3	2	1	0
Smart	3	2	1	0
Good	3	2	1	0
Hard Working	3	2	1	0

COMPETENCY RATINGS

1. If the red group kids competed against the blue group kids in a big school **spelling** contest, who do you think would win—the red group, the blue group, the bicolor group? (if a tie, circle which groups would tie).

Red

Blue

Bicolor

2. If the red group kids competed against the blue group kids in a big school **pattern puzzle** contest, who do you think would win—the red group, the blue group, the bicolor group? (if a tie, circle which groups would tie).

Red

Blue

Bicolor

3. If the red group kids competed against the blue group kids in a big school **math** contest, who do you think would win—the red group, the blue group, the bicolor group? (if a tie, circle which groups would tie).

Red

Blue

Bicolor

4. If the red group kids competed against the blue group kids in a big school **memory** contest, who do you think would win—the red group, the blue group, the bicolor group? (if a tie, circle which groups would tie).

Red

Blue

Bicolor

5. If the red group kids competed against the blue group kids in a big school **art** contest, who do you think would win—the red group, the blue group, the bicolor group? (if a tie, circle which groups would tie).

Red

Blue

Bicolor

6. If the red group kids competed against the blue group kids in a big school **rotation puzzle** contest, who do you think would win—the red group, the blue group, the bicolor group? (if a tie, circle which groups would tie).

Red

Blue

Bicolor

7. If we compared all the red group kids to all the blue group kids in the school, who would have most **time-outs** for bad behavior at the end of the year—the red group, the blue group, the bicolor group? (if a tie, circle which groups would tie).

Red

Blue

Bicolor

8. If we compared all the red group kids to all the blue group kids in the school, who would have **forgotten their homework** more at the end of the year— the red group, the blue group, the bicolor group? (if a tie, circle which groups would tie).

Red

Blue

Bicolor

9. If we compared all the red group kids to all the blue group kids in the school, which color group will have the most important and high paying jobs when they grow up?

Red

Blue

Bicolor

Appendix B: Conformity

Do you think these statements are true or not true?

1. I always say what I think.

YES			NO
4-Really true	3-Sort of true	2-Sort of not true	1-Really not true

2. It is always best to fit in with other kids and try to act like they do.

YES			NO
4-Really true	3-Sort of true	2-Sort of not true	1-Really not true

3. I like to be the same as my friends.

YES			NO
4-Really true	3-Sort of true	2-Sort of not true	1-Really not true

4. It is better to agree with people than to argue about what you think.

YES			NO
4-Really true	3-Sort of true	2-Sort of not true	1-Really not true

5. I compare myself with other people a lot.

YES			NO
4-Really true	3-Sort of true	2-Sort of not true	1-Really not true

6. I worry about being teased.

YES			NO
4-Really true	3-Sort of true	2-Sort of not true	1-Really not true

7. I worry about what other kids think of me.

YES			NO
4-Really true	3-Sort of true	2-Sort of not true	1-Really not true

8. If I get into an argument with another kid, I worry that he or she won't like me.

YES			NO
4-Really true	3-Sort of true	2-Sort of not true	1-Really not true

9. I'm afraid that other kids will not like me.

YES			NO
4-Really true	3-Sort of true	2-Sort of not true	1-Really not true

10. I feel shy around kids I don't know.

YES			NO
4-Really true	3-Sort of true	2-Sort of not true	1-Really not true

11. I only talk to kids I know really well.

YES

NO

4-Really true

3-Sort of true

2-Sort of not true

1-Really not true

12. I am quiet when I'm with a group of kids.

YES

NO

4-Really true

3-Sort of true

2-Sort of not true

1-Really not true

13. I'm afraid to invite others to my house because they might say no.

YES

NO

4-Really true

3-Sort of true

2-Sort of not true

1-Really not true

Appendix C: Sample of Presidential Poster

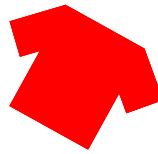
VOTE FOR SUMMER CAMP PRESIDENT

I VOTE FOR: (Circle the student you think should become president)

Red Shirt Representative:



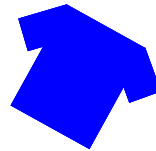
Todd



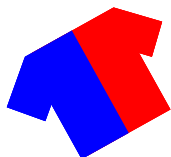
Blue Shirt Representative:



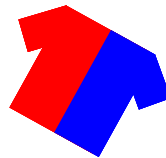
Mark



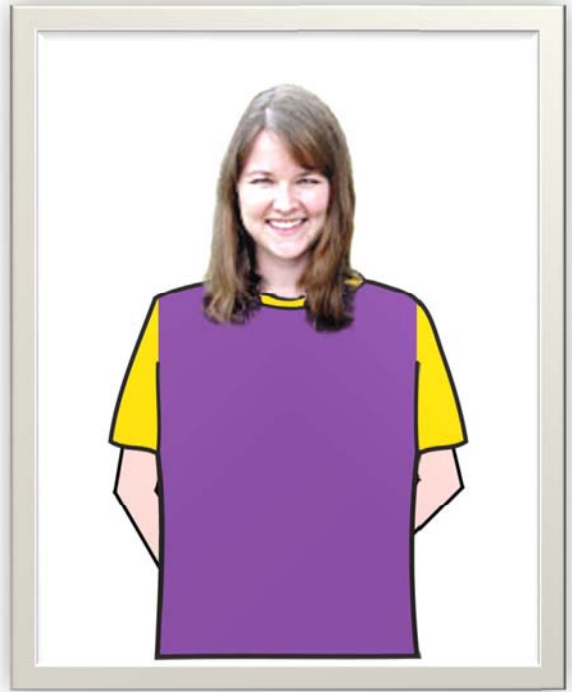
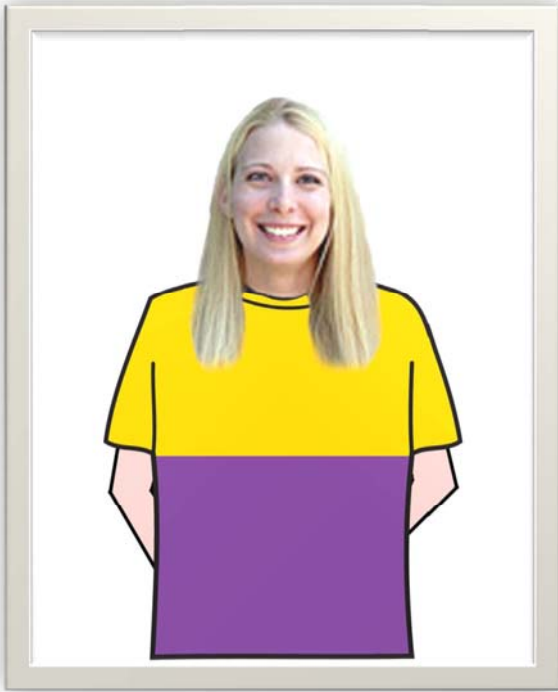
Bicolor Shirt Representative:

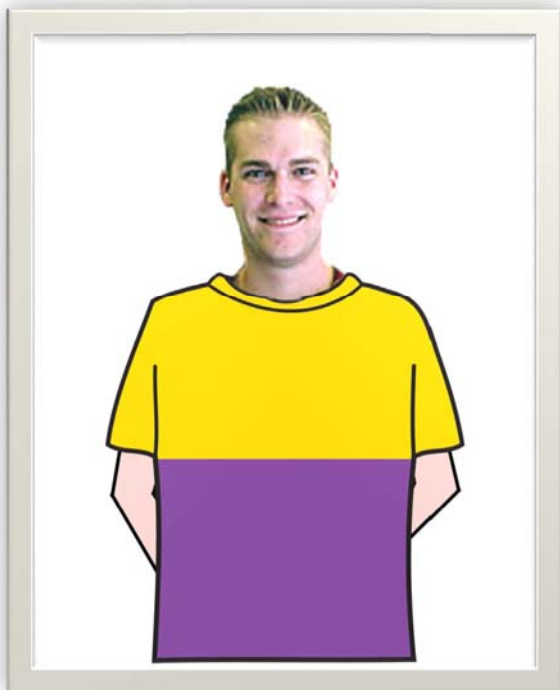


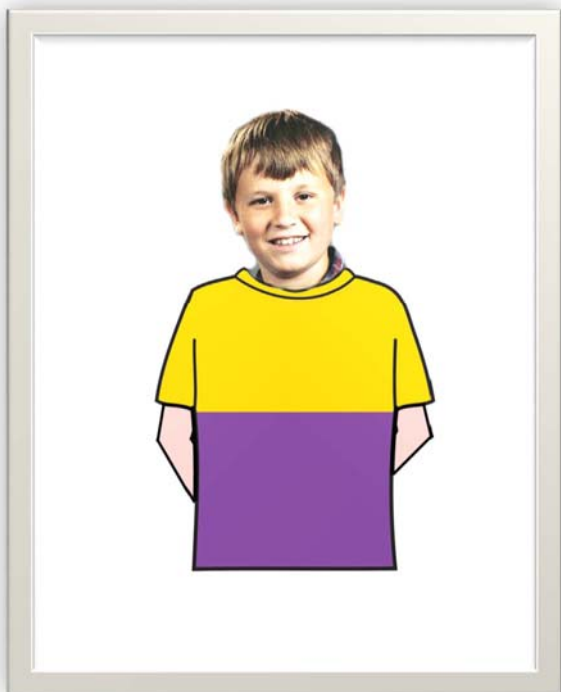
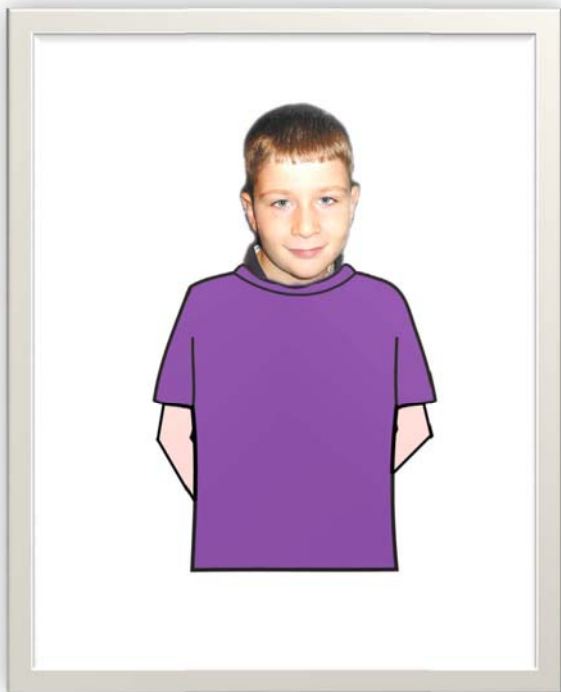
John

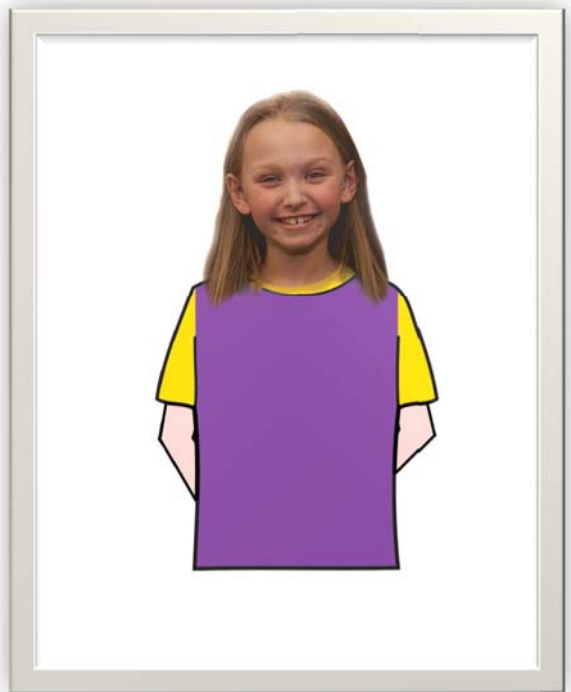
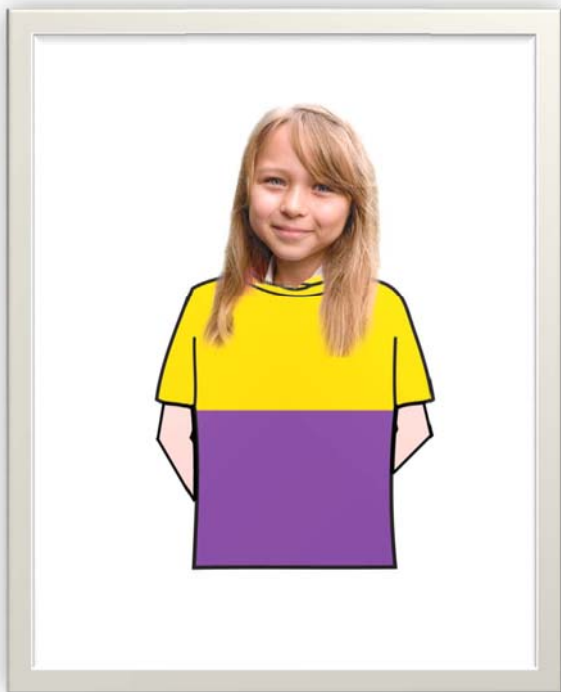
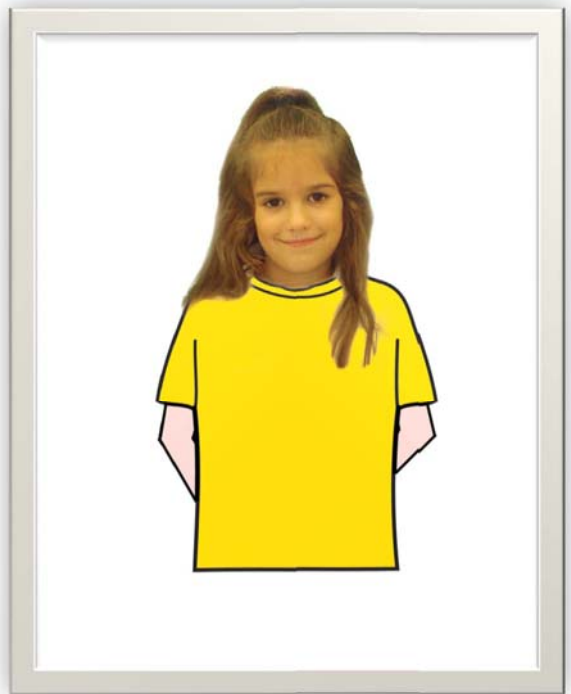


Appendix D: Novel Categorization Stimuli









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VITA

Katherine Vera Aumer-Ryan was born in Cedar Rapids, Iowa on January 8, 1981, the daughter of Gary and Ellen Aumer. After completing her work at Thomas Jefferson High School in Cedar Rapids, Iowa in May 1999, she attended Simpson College in Indianola, Iowa for one semester. In January of 2000, she transferred to Kirkwood Community College in Cedar Rapids, Iowa, and in August of 2000, transferred to the University of Iowa in Iowa City, Iowa where she received a Bachelor of Arts in Psychology (with honors) and a Bachelor of Arts in Theatre in May 2003. Katherine attended the University of Hawai'i at Mānoa, in Honolulu, Hawai'i in August 2003 and worked as both a research assistant and counselor for the University Health Services. In August 2004 she entered the graduate school of the University of Texas at Austin.

Permanent Address: 214 Cherry Hill Rd, NW, Cedar Rapids, Iowa, 52405

This dissertation was typed by Katherine Vera Aumer-Ryan.